

PR4



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,104	10/12/2000	Masashi Nogawa	TIJ-28802	6438

7590

10/03/2002

William B. Kempler
TEXAS INSTRUMENTS INCORPORATED
P.O. Box 655474
7839 Churchill Way, M/S 3999
Dallas, TX 75251

EXAMINER

NGUYEN, JIMMY H

ART UNIT PAPER NUMBER

2673

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PR4

Office Action Summary

Application No.

09/689,104

Applicant(s)

NOGAWA, MASASHI

Examiner

Jimmy H. Nguyen

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's preliminary amendment filed on 10/12/2000 (entered into the file wrapper as Paper No. 5). Claims 1-11 are currently pending in the application. An action follows below:

Specification

2. The disclosure is objected to because of the following informalities:

- i. “ \cong ” appeared many places, e.g., page 1, line 10, should be deleted,
- ii. “[connected]” should be changed to -- connected --, and ✓
- iii. “it [the display device]” should be changed to -- the display device --.

Appropriate corrections are required.

Drawings

3. Figures 7-8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. ✓

Claim Objections

4. Claim 2 is objected to because of the following informalities: line 3, “switches that are” should be changed to -- switch that is --, and line 6, “switches” should be changed to -- switch --, so as to be consistent with figures 1-2 and the specification, especially at page 6, lines 18-25, i.e., only a switch (22) corresponding to the claimed switch, a controller (12) corresponding to the claimed switch control means and a prescribed time TG corresponding to the claimed prescribed time. Appropriate correction is required.

5. Claim 3 is objected to because of the following informalities: line 9, "switches that are" should be changed to -- switch that is --, and line 12, "switches" should be changed to -- switch --, because of the same reason as set forth in claim 2 above. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art, hereinafter AAPA.

Regarding to claim 1, as noting in figures 7-8 and the corresponding description, the claimed invention is obviously read by one skilled in the art as follows: AAPA discloses a dynamic drive type dot matrix display device (page 1, line 9) having multiple lines of scanning electrodes (CL₀-CL₃) and multiple lines of signal electrodes (J₀-J₂) are arranged interlacing in a matrix form and in which the display elements (LED₀₀, LED₀₁, LED₀₂, LED₁₀, LED₁₁, LED₁₂ and etc.) at each intersecting points of the matrix are driven by a voltage between the scanning electrodes and the signal electrodes (by virtue of the operation described at page 1, lines 21-30), the display device comprising elements (i.e., all LEDs in the last column, e.g., LED₀₃, LED₁₃, LED₂₃ and LED₃₃ as shown in fig. 7) (corresponding to the claimed rectifying elements) electrically connected in the direction of a prescribed polarity between the scanning electrodes and a terminal of the switch (F₃) (corresponding to the claimed reference voltage terminal) that applies a ground potential (corresponding to the claimed prescribed reference potential) when the

Art Unit: 2673

switch (F_3) is ON, and the constant current source circuit (J_3) providing an active load on the scanning electrodes is discharged to the reference voltage terminal side through the medium of the rectifying elements (page 1, lines 21-30). Accordingly, AAPA obviously discloses the claimed invention as specified in claim above.

Regarding to claims 2 and 3, AAPA further discloses the display device comprising an switches (K_0, K_1, K_2, \dots) connected in series with the rectifying elements (i.e., all LEDs in the last column, e.g., $LED_{03}, LED_{13}, LED_{23}$ and LED_{33} as shown in fig. 7), a switch (F_3) connected in series with the rectifying elements, an inherent switch controller that providing a control signal to place the switch (F_3) in the ON state for a period corresponding to the gradation of the pixel (corresponding to the claimed prescribed time) (see page 1, lines 26-30), an inherent scanning electrode drive circuit for providing scanning drive signals to the corresponding switches (K_0, K_1, K_2 and etc.), thereby sequentially driving a plurality of scanning electrodes (CL_0, CL_1, \dots) with a voltage V_{BB} (corresponding to the claimed prescribed reference drive voltage) (page 1, lines 16-30), and an inherent signal electrode drive circuit for providing driving signals to the switches (F_0, F_1, F_2), thereby driving signal electrodes (RL_0, RL_1, RL_2) (page 1, lines 16-30). Accordingly, AAPA obviously discloses the claimed invention as specified in claims above.

Regarding to claim 4, 6 and 7 as respectively applied to claims 1-3 above, AAPA further discloses the display device comprising a constant current source circuit (J_3) that is connected in series with the rectifying elements (see fig. 7). Accordingly, AAPA obviously discloses the claimed invention as specified in claims above.

Regarding to claim 5 and 8-10 as respectively applied to claims 1-4 above, AAPA further discloses that the display elements are made up of light emitting diodes and a portion of the display elements, i.e., the portion including rectifying elements, i.e., all LEDs in the last column, e.g., LED₀₃, LED₁₃, LED₂₃ and LED₃₃ as shown in fig. 7. Accordingly, AAPA obviously discloses the claimed invention as specified in claims above.

Regarding to claim 11 as applied to claim 5 above, because it is really identical to claim 5 when it is read together with claims 1 and 5, this claim is therefore rejected for the same reason as set forth in claim 5 above.

It is noted that claim 11 should be cancelled because of the reason above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McDonald (USPN: 3,969,393, see fig. 1 and abstract) and Norman et al. (USPN: 5,719,589, see figs. 1 and 3), discloses related dot matrix display device.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422.

The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Art Unit: 2673


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 306-0377.

JHN
September 24, 2002


Jimmy H. Nguyen
Examiner
Art Unit: 2673